

LORRAINE'S WEALTH GERMANS' STRENGTH

**Grip on Mines Gave Kaiser
Power to Withstand Foes,
Says Engeraud.**

GIVES AMAZING FIGURES
To Repair Bismarck's Mistake
of '71 "One of Chief
Causes of War."

Special Correspondence to THE SUN.
LONDON, Aug. 18.—Ferdinand Eng-
raud has written an informative article
on what Lorraine means to Germany,
more particularly from the point of
view of its great mineral wealth. He
lays stress upon the material wealth of

He declares that the strength of Lorraine has been in the iron and steel industry of Germany, that it is from these industries that Germany has derived her metallurgical supremacy, the cause of her political hegemony, and that it is in the iron and steel industry that Germany has derived her grip on the few miles of Lorraine which she has taken in 1871 and of those other mining districts now occupied by her in Belgium and northern France. "Lorraine has so far been able to hold her own against a world of foes."

M. Engerer says: "Lorraine will make the matter plain. In 1913 out of 23,607,000 tons of iron ore extracted from German territory 10,000,000 came from the Lorraine mines. The German industrial representatives of the great industrial and agricultural associations of Germany and the German representatives to the Chancellerie in London have been so sure of this that since the beginning of hostilities it was the iron ore of Lorraine which provided nearly 80 per cent. of the manu-

that 'were the mining operations in Lorraine to receive any setback the war would be half lost thereby.'

Wealth in Little Corner.

"We actually did not know France, and we have only learned the fact through Germany, that from our frontier line, Longwy-Briey, we could strike with our guns nearly the whole of the mine field. For it is a strip of land in the narrow sector comprised between the Franco-Luxembourg frontier and the River Orne—a quadrilateral of from 50 to 100 miles long and from 10 to 15 miles broad—that the Germans have concentrated their mining works, the mines to the south of the Orne being negligible."

"It is from this little corner of Lorraine that the German colossus draws his strength, the raw material for his munitions, the fuel for his war machine, the weapon to assure his hegemony—and we ignored it completely. To be fair one must admit that when Germans took over Lorraine in 1871 they ignored it too."

"The ferruginous basin of Lorraine starts from the slopes of the Moselle and extends to the north for 100 miles of two kinds, diluvial are found in beds and oolitic ore, popularly known as 'tereforts' and phosphoric 'minettes' in the metallurgical field. The latter is only a small part of the wealth in iron, free of phosphor, and, lying near the surface, easier to work. But it was

Luckily Overlooked Briley.

"Thus it came about that in 1871 a German General Staff and the engineers charged with settling the mines were so busy with the celebrated mines of ferberite, that is to say the surface mines to the north and east, the others they passed over. It is owing to their lack of knowledge of them that we still possess the mines of Briley. Nevertheless the great future of this region might have been foreseen, and any day disaster would have overtaken us. We have known it already had been scientifically demonstrated that these ores could be dephosphorized and thus exported as such. The fact that we must invent lead to practical metallurgical results."

"This is exactly what happened after the year of 1870. In the year 1876 a young man, Sidney Olshiesky Thomas, junior clerk at Marlborough street police court, discovered a method for dephosphorizing pig iron, and the discovery was one of the greatest economic revolutions in history. Poor France it was more fortunate than a great victory, giving a hitherto unexploited value not only to those of Normandy of the west."

"France in the matter of metallurgy has always shown herself inferior to Germany. She failed to draw from the enormous temporary profits she should

have drawn. Germany, on the contrary, rose to it at once and has doubled immense wealth from its applied technology. The Thomas converter, the Bessemer process, invented after the annexation of the iron basin of Lorraine, which has allowed German metallurgy to attain its formidable predominance.

Amazing Tonnage.

"From 744,000 tons in 1875 the extraction of Lorraine ores rose in 1913 to 1,385,000 tons. Iron smelting rose from 1,000,000 tons in 1875 to 1,913,000 tons in 1913, and steel smelting from 500,000 tons rose to 19,000,000 tons. Of these 19,000,000 tons of ore more than 12,000,000 tons were produced by the Thomas converter, and the 10,000,000 tons of steel 11,000,000 tons came from the Thomas converter.

"To produce this huge output Germany exploited the Lorraine ores more intensively. Up to 1908 she was able to obtain all she required from them, and

the amount of ore she had to import was very small. But from 1905 onward the situation changed entirely. The iron ore was exhausted and she had to obtain almost the entire quantity while those for ore brought from foreign sources jumped to fantastic heights. From 4,000,000 tons they became in 1918 18,000,000 tons.

The German iron and steel industry was buying from the nations one-third of the ore they required. Worse still, the ore had observed during the preceding two years a steady deterioration in their *Lebensdauer*, or life span, while those across the Atlantic at Bryn Mawr were steadily increasing in life span. They recognized with dismay Bismarck's mistake in 1871 and the great opportunity lost to them.

Every year as their need of iron ore increased the thought of the prospects weighed more and more on their minds. They knew, thanks to the new

rious petition addressed to Bohemian-Hollweg clamoring for permanent annexation of all conquered territory, and reparation of the above error was one of the chief ends if not the first cause of the present war. They claim all the iron mines of Hriej, promising themselves similar profits from those as they have already gained from those on the German side of the frontier."



big houses, and groups of villagers, of whom the old men had all come to see the commanding army of the men were tall as grenadiers, and walked with the easy, tireless footing of gillies. The

HE WHO RATS MUST and most of my customers to whom I **DARE DELIBERATING** **SELF DENIAL WEEK**

SELF-DENIAL WEEK HELPS BOND SALES

Throughout England Munitions Workers Put Earnings Into Securities.

Special Correspondence to THE SUN.
LONDON, Aug. 15.—As the result of an appeal by the Government to the people during the recent so-called self-denial week the number of the 15s. 6d. (82.23)

certificates sold by hundreds of war savings associations reached the record total of 2,926,935. The aggregate sales for the five months from February to July 22 are 14,946,980.

Some remarkable results were achieved during war savings week. In West Haverleap £37,000 (£15,000) was invested in the purchase of war savings bonds, an average of 11s. (£2.64) per pound of the population. In Sheffield £200,000 (£100,000) was invested, and in a further 100 towns the cost-offered was crowded with munitions workers and others eager to buy certificates.

At Clayton, near Ashton-under-Lyne, the 100,000 certificates collected cost £5,612 (£28,060) in the course of three days, and in Nottingham nearly 10,000 15s. 6d. (£3,722) certificates were sold in a further 100 towns.

During the five days from July 17 to 22 no fewer than 798 associations were affiliated, and last week this number

Applications for \$5 (\$25), \$20 (\$100), \$50 (\$250) post office exchequer bonds during self-denial week numbered 28,000, compared with 19,000 in the previous

week. The value of the bonds sold was \$700,000 (\$3,500,000), bringing the aggregate sales of post office bonds to date to \$1847,000 (\$4,235,000), and the aggregate value to \$27,350,000 (\$136,750,000).

LOSES EYE ON FIRST AIR TRIP.
British Pilot, Maimed, Shoots For,
Lands, Cables Mother.

LONDON, Aug. 15.—An army medical officer back from the front reported the case of a Royal Flying Corps observer whose eye was shot out. A German airman got a shot at him on his first trip into the air over the German lines.

"It sounded as if some one were playing a mandolin when the bullets came through the wires of our machine," he said.

One missile gouged out his eye and embedded itself in the frontal bone.

Despite the injury the observer let go with his machine gun and drove off the enemy.

Utah's Forests Aid School and Roads.

WASHINGTON, Aug. 26.—All of the twenty-eight counties of Utah contain portions of national forests and consequently all share in the 25 per cent. of the national forest receipts, which is paid over to the road and school funds.

This is true of no other State.

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He declares that the strength of Lorraine has been the possession of Germany, that it is from there the drives her metallurgical supremacy, the cause of her political hegemony, and that it is in this region that the grip on the few miles of Lorraine was taken in 1871 and of those other mining districts now occupied by her in Belgium and northern France.

M. Engerer says: "Lorraine has so far been able to hold her own against a world of foes."

M. Engerer says: "Lorraine will make the matter plain. In 1913 out of 23,607,000 tons of iron ore extracted from German territory 13,000,000 came from the Lorraine mines. The German industrial representatives of the great industrial and agricultural associations of Germany and the French representatives of the Chamber of Commerce and Industry are of the opinion that since the beginning of hostilities the iron ore of Lorraine which provided nearly 80 per cent. of the manu-

Wealth in Little Corner.

"We actually did not know France, and we have only learned the fact through Germany, that from our frontier line, Longwy-Briey, we could see the Orne, which is a whole of the mine fields of Lorraine. For it is in the narrow sector comprised between the Franco-Luxembourg frontier and the River Orne, that the Germans have sixteen to twenty miles long by three to five miles broad—that the Germans have concentrated their mining works, the bulk of the south of the Orne being neglected."

"It is from this little corner of Lorraine that the German colossal drives his Orne, the Orne, the Orne, the Orne metallurgical enterprises, the base

The ferruginous basin of Lorraine starts from the slopes of the Moselle and runs toward the west. The ore is of two kinds, diluvial ore found in odes and oolitic ore, popularly known as "fersfor" and phosphoric "minettes." In 1870 metallurgists held the first name only to be marketable; it was richer in iron, free of phosphor, and, lying near the surface, easier to work. But it was

Luckily Overlooked That. "Thus it came about that in 1871 the German General Staff and the engineers charged with settling the new frontier seized eagerly the most celebrated mines of 'Terrenurs', that is to say the surface mines to the north and east, the others being left over. It is owing to this lucky mistake of theirs that we still possess the mines of Briey. Nevertheless the great future of this region might have been foreseen. The discarded slag heaps of the blunders must have been known if already had been sci-

could be dephosphorized and that the experiments of the laboratory must inevitably lead to practical metallurgical results.

the war of 1870. In the year 1876 a young Englishman, Sidney Gilchrist Thomas, junior clerk at Marlborough street police court, discovered a method for dephosphorizing pig iron, and the discovery proved to be one of the greatest

economic revolutions in history. For France it was more fortunate than a great victory, giving a hitherto unsuspected value not only to the area of French Lorraine but also to those of Normandy of the west.

"France in the matter of metallurgy has always shown herself indifferent and short sighted. She failed to draw from Thomas's discovery the profits she should have drawn. Germany, on the contrary, rose to it at once and has derived im-

mense wealth from its application to new iron ores. It is, in fact, the Thomas process, invented after the annexation of the iron basin of Lorraine, which has allowed German metallurgy to attain its formidable predominance.

Amazing Tonnage.
 "From 744,000 tons in 1875 the extraction of Lorraine ores rose in 1913 to 31,136,000 tons. Iron smelting rose from 2,500,000 tons in 1880 to 19,000,000 in 1913."

1913, and steel smeltings from 800,000 tons rose to 10,000,000 tons. Of these 10,000,000 tons of ore more than 12,000,000 tons were produced by the Thomas process, and of the 10,000,000 tons of steel 11,000,000 tons came from

'To produce this huge output Germany exploited the Lorraine iron ore relentlessly. Up to 1903 she was able to obtain all she required from them, and the amount of ore she had to import was

very small. But from 1903 onward the situation changed entirely. The figures for Lorraine ores remained almost stationary, while those for ores brought from foreign sources jumped to fantastic heights. From 4,000,000 tons they be-

The German metallurgists were now buying from other nations one-third of the ore they required. Worse still, they had observed during the preceding ten years a steady deterioration in their Lor-

raline ores, while those across the front at Briey had a ferruginous value four or five points higher. They recognised with dismay Bismarck's mistake in 1871 and the great opportunity lost to them. Every year as their need of iron ore in-

"As we know now, thanks to the notorious petition addressed to Becham and Holloway clamoring for permanent annexation of all conquered territory, the

reparation of the above error was made by the chief ends if not the first cause of the present war. They claim that the iron mines of Heley, promising them selves similar profits from those at the have already gained from those in the "on the side of the frontier."

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